

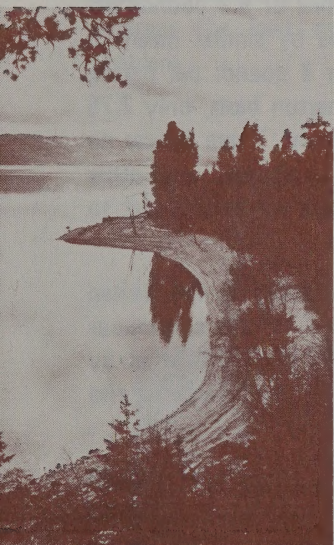
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introduction

Solid waste is considered anything such as daily garbage, cans, bottles, jars, boxes, paper, yard trash, junked cars, scrap metal and the like. Although most Montanans realize there is a solid waste problem, more public awareness is needed. The lack of full awareness seems to arise from the attitude of "out of sight, out of mind." Many Montanans have always hauled their solid waste or garbage to the local dump or paid a minimal fee for residence collection. They have also experienced very little control over the "on site" storage and handling of their solid waste.

It is, therefore, the purpose of this pamphlet to tell the story about solid waste or garbage and create an interest as well as an awareness of the problem. It is time to look at Montana as it is now, what could possibly happen, what is and can be done, and what laws are in effect to help prevent the degradation of a beautiful landscape.



THE SITUATION IN MONTANA TODAY



Community

Studies indicate that the amount of solid waste produced by the residents of Montana closely approaches the national average. Nationally, the solid wastes collected by public and private organizations each year amount to 190 million tons or 5.3 pounds per person per day. By 1980, the amount collected by similar means is expected to be over 340 million tons annually or 8 pounds per person per day. By contrast, in 1920, on a daily per person basis, only 2.75 pounds per person per day were collected routinely. These figures do not take into consideration junked autos, old appliances, and other heavy, bulky items that would make this poundage per person soar to almost twice as much.

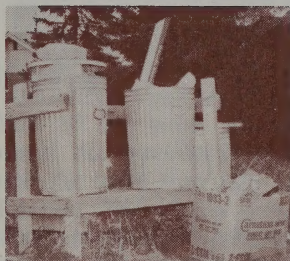
Studies indicate that the amount of waste produced in the United States is increasing. Several reasons are attributed to this continuous rise: 1. **Packaging trends** — items purchased are usually dwarfed by their package, 2. **The use of non-returnable containers**, 3. **General rise in affluency in the U.S.** has contributed greatly.

"On site" storage differs throughout the state. Larger cities require at least a standard 32-gallon galvanized can for storage of residential garbage. The smaller communities generally have no restrictions at all. Here, garbage may be stored in anything from a 55-gallon drum to cardboard boxes in alleys or old trailers. Most people in these communities have been burning trash and garbage in barrels. According to air pollution control standards, this practice is illegal unless special permission is obtained through the state, or local Air Pollution Control Agency. Montana does not differ significantly in its waste storage problem from other states.

Residential collection systems are as varied in this state as storage practices. Of the communities surveyed: 63% of the households were served by public agencies, 27% by private collectors, and 10% hauled

their own garbage. 70% of the communities received once a week pickup, 27% twice a week and 3% varied from once every two weeks to once a month, to whenever it became an eyesore or nuisance. It was then hauled to the dump. The cost varied from \$12.00 a year to \$36.00 a year. The \$36.00 per year included the fee for final disposal. In the \$12.00 per year community, open burning dumps were in use; therefore, little or nothing was charged for final disposal. Open burning dumps are now illegal.

In 1965, a law was passed to control refuse disposal sites. The enforcement program is in its infancy. Enforcement of local ordinances controlling storage and collection is usually on a complaint basis. Unfortunately this adds to the problem of solid waste piling up, whereas the laws and ordinances were initiated to help ease the problem.

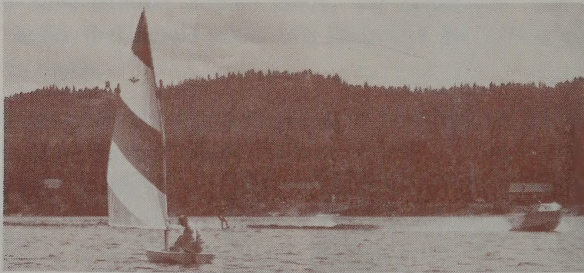


RECREATION



Approximately 3.2 million people flowed through Montana in 1969, (mostly in the summer months) for recreational purposes. It is estimated that these vacationers produce $1\frac{1}{2}$ pounds of solid waste per person per day while in Montana. This constitutes an increase of about 10 times the amount of solid waste per day.

With the increase in popularity of winter sports and the availability of winter recreational facilities, the problem of waste disposal is fast becoming a twelve-month dilemma. However, Forest Service, State Fish and Game, Highway Department and the Highway Patrol personnel are cooperating in the solid waste management programs.



AGRICULTURE

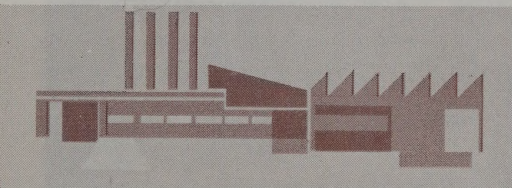
In the period from 1920-1967, the number of farms in Montana dropped from 57,700 to 27,600. However, this is still Montana's number one industry.



The solid waste created by this industry is generally considered to be in two main categories: (1) wheat stubble (or straw) and (2) livestock manure. Many times straw is just plowed under to prepare the seed bed for the next crop. Extremely heavy stubble may be burned off prior to plowing, by special permission, which creates an unavoidable air pollution problem. Another method is to remove it either loosely or by bales and use it as feed and bedding for livestock. Foliage from other crops (beets, corn, etc.) is chopped and used for feed.

The solid waste produced by livestock does not constitute a public health problem, unless the animals are in a confined area such as feed lots. It is estimated that a thousand pound animal will produce 65 pounds of solid waste per day that it is on feed. Therefore, feed lots handling 20,000 head of cattle have an extremely large volume of solid waste to dispose of.

Problems arise when the manure is mounded during the summer months and spread on fields in the fall. This allows time for flies to complete their life cycle in the manure unless these lots are sprayed for fly control.



INDUSTRY

Mining

Most of the waste generated is in the form of inorganic material (material not considered animal or vegetable). The mills and smelters around the state have slag piles near them which are visible for quite a distance. The visible presence of these, however, is an aesthetic rather than a public health problem.

Lumbering

The waste products generated in the lumber industry vary depending on the phase of lumber processing involved. Like the mining industry, the solid waste generated has little public health significance. However, the ecological effect is another story. Again, air pollution control programs are being aimed at this industry for disposal by burning. Better than two million tons of wood waste is burned in teepee burners per year creating a serious air pollution problem. This was to be eliminated by order of the Division of Air Pollution and Industrial Hygiene as of June, 1970.



Old Cars

Montana is not re-registering approximately 25,000 automobiles each year. An alarmingly high number of these, plus the huge backlog, are being abandoned along the roadside and city streets, ending up in junk yards, or being dumped in or

near rivers, lakes and streams. As the prosperity in the U.S. increases, so will the number of abandoned old cars. Somewhere in the near future a solution will have to be found as we are fast running out of acceptable disposal places.

Old tires can be associated with the automobile industry. Huge volumes of these are discarded each year. In the past they were disposed of by burning. Air pollution regulations now make this unacceptable.

Highways



Along every highway can be seen discarded beer cans and bottles, pop bottles, paper, tin cans and anything else that can be thrown out by the traveling public, but also by thoughtless local residents.

The State Highway Department maintains 853 litter barrels at 387 different sites. Each barrel costs \$51.00 per year to maintain from May through September. Besides all the litter dumped in these barrels, 50 tons a year is picked up at a cost of \$500.00 per ton.

The problem as it stands today is one of thoughtless inconsideration for the beauty of the land and the enjoyment of other people.



FUTURE MONTANA GROWTH

Montana, though being one of the largest in acreage, is still one of the most sparsely populated states in the union. However, at

the end of 1970, Montana citizens began producing 858 tons of solid waste per day because of a rise in population to 682,133 inhabitants. We must also consider the fact that the number of visitors to our state is expected to increase. Every day that three million people spend in Montana, they generate 1,500 tons of waste. This alone requires three acres for disposal by sanitary landfill. At an increase of 8% a year, by 1985, these figures will almost double.

Over the next 15 years the agricultural solid waste problem is not expected to change perceptibly. We are experiencing little difficulty in the disposal of solid waste produced at feed lots at present. However, with these lots being built closer to residential areas, we must maintain good management of fly control at these sites.

Automobile Production

Montana, since 1964, has realized an increase of new cars purchased at the rate of 1,000 per year. National averages have shown that for every 8 million cars manufactured in a year, 6 million will be junked that same year. In 1969, 40,949 cars were sold in Montana, which means approximately 30,700 cars were probably junked. There has been no projection as yet for the future, but it is reasonable to assume that sales will remain on the increase.

Modern Containers

As more and more companies produce non-returnable containers, more and more of these containers can be seen along the highways. Most of these new containers are being made of aluminum, which highly resists rusting. Plastic containers are also a problem, as they will not eventually decompose like paper. The amount of litter seen at the side of the highways is getting progressively worse. Unless something is done, we can expect to see lifeless land along every highway in Montana.

EFFECTS ON HEALTH & WELL BEING

Inefficient and improper methods of storage, collection and disposal of refuse, trash and other solid wastes make vast stretches of our once beautiful land ugly, and present serious hazards to public health.

- Solid wastes have been associated with at least 22 human diseases and numerous accidental injuries. Dumps, alleyway garbage heaps, and other places of garbage accumulation are excellent breeding grounds for animals which are disease carriers.

- Mismanagement of solid wastes has adverse effects on land values, creates public nuisances, and otherwise interferes with community life and development.

- Solid waste management presents an economic problem of major proportions: millions of dollars in the state, billions nationally; and yet the overall quality of solid waste operations is poor or inadequate.

- Vast quantities of non-renewable resources, such as ferrous metals, which are permanently lost in the solid waste stream, present an economic and raw material drain which grows along with the solid waste load.

CONTROL MEASURES

In 1965, the governor of Montana designated the State Department of Health as the official agency to plan and control solid waste disposal in this State. Some examples of control measures are:

- laws outlining the proper disposal techniques of dead animals by the owners.
- an anti-litter law and one prohibiting the dumping of litter on highway rights of way.
- laws permitting the creation and financing of refuse disposal districts by local government.
- one law requires all garbage-fed animals receive cooked garbage.
- another law regulates the location of junk yards and requires screening of some type to keep the wind from blowing refuse out of the disposal area.

A copy of all present legislation can be obtained by writing: Division of Environmental Sanitation, State Department of Health, Helena, Montana 59601.

To help communities establish good solid waste management programs, the State Dept. of Health will furnish a model which a community can amend to fit local conditions and adopt. The State Health Department, on request, checks the proposed site for suitability. SDH staff members will help develop a solid waste management plan for a community and suggest means to finance the program.

WHAT IS BEING DONE

Sanitary landfills seem to be the answer to the solid waste problem in Montana. Sanitary landfills consist of four basic operations:



Left: Solid wastes are deposited in a controlled manner in a prepared portion of the site.



Right: The solid wastes are covered daily or more frequently, with a thin layer of earth.



Left: The solid wastes are spread and packed down in layers.



Right: The cover material is packed down daily.

There are, of course, both advantages and disadvantages to the use of sanitary landfills. However, the advantages far out-weigh the disadvantages. A few of these advantages are:

- usually the most economic method
- the initial investment is low
- a complete or final disposal method
- can be put into operation in a very short time
- can receive all types of solid wastes
- is flexible as increased quantities of solid wastes that can be disposed of with little or no additional personnel and equipment
- sub-marginal land may be reclaimed for use as parking lots, playgrounds, golf courses, airports, etc.

Montana has 514 communities, of which 453 are under 1,000 people in population. This poses a large problem as far as economically using sanitary landfills. There are at least 14 sanitary landfills in operation throughout the State. In order to reach these smaller communities with a functional sanitary landfill centrally located sites will have to be found. The State Department of Health is now working on plans to help several small communities find convenient disposal sites that can be used. This would reduce tremendously the number of disposal sites now in use.

The approximately 25,000 old automobiles that are generated each year in Montana are causing a considerable disposal problem which is primarily economic. Presently, the dismantlers strip all the salable parts from the automobile, leaving only the body. The cost of preparing this part of the auto for market far exceeds the selling price of the salvaged material. Legislation is proposed that would subsidize the disposal of these old automobiles.

WHAT YOU CAN DO

As citizens of Montana, we can help alleviate the problem of solid waste in the following ways:

- become informed about solid waste management practices by visiting local disposal sites and attending local meetings dealing with the issue
- let Local, State and Federal officials know of your interest and willingness to pay for adequate solid waste management
- organize and participate in neighborhood cleanup campaigns
- ask for and use returnable beverage containers
- observe good waste disposal practices at home and in public areas. Don't litter. Don't burn trash and/or leaves
- petition community leaders to obtain a well run sanitary landfill, solid waste management program including storage, collection and disposal.



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WHAT YOU CAN DO

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